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In this system, therefore, the skilled artisan will now appreciate that the expanded stent **201** may be manipulated in one or more planes using the non-looped W and looped L wires as push and/or pull wires, either as pairs P of wires moving relative to each other and/or the individual non-looped W and looped L wires moving relative to each other to manipulate the stent's position from the proximal end.

FIG. 3 illustrates an exemplary proximal end of a delivery device **100** illustrating two repositioning/release wire and loop pairs P, wherein each looped wire L of a pair P may be connected with a luer lock, or equivalent, device **120** that may be used to lock or unlock/release one or both of the non-looped W and looped L wires of the pair P. Locking one or both wires L, W of the pair P fixes the relative location and movement of the locked wire(s) until unlocked or released. The operator may manipulate the position of the stent **201** if all locks **102** are engaged by pushing and/or pulling on one or more of the wire pairs P. Unlocking one or both wires L, W of a pair P enables an operator from the proximal end to push and/or pull wire(s) L, W, and therefore position and/or reposition the expanding and/or expanded stent to which the wire and loop pair(s) P is/are connected. As discussed above, there may be one, two, three or more such wire and loop pairs P within the device. Unlocking both wires L, W of the pair P allows translation and rotation of each wire L, W and relative to each other.

As further discussed herein, the exemplary prosthetic heart valve **200** comprising the expandable and collapsible stent frame **201** of FIG. 2 may comprise one or more wire and loop pairs P connected with a lower or distal region **212** of the expanded heart valve. Next, the expanded prosthetic heart valve is collapsed within the delivery catheter lumen **104** at its proximal end and translated in the collapsed configuration to the patient's left atrium where it is released and expanded to a working configuration as shown in FIG. 2. Either the upper end or upper region **210**, or the lower end or distal region **212** may be first collapsed and introduced into the lumen **104** of delivery catheter **102**. When the stent frame **201** emerges, or begins to emerge, from the distal end of lumen **104** of delivery catheter **102**, the wire pair(s) P may be used to manipulate or change the position of expanding or expanded stent frame **201** to orient the lower surface **214** of the stent and the associated valve support **208** and prosthetic leaflets with the native annulus and mitral valve. This positioning may be done by manipulating the wire and loop pairs(s) P, and/or the individual non-looped W and looped L wire(s) in order to align the stent **201** and fluid flow path therethrough with the native annulus to enable fluid communication therewith and therethrough. Moreover, if the initial positioning of the prosthetic valve device **200** is not optimal, the wire and loop pair(s) P, and/or the individual non-looped W and looped L wire(s), may be used to manipulate and reposition until optimal placement is achieved. At that point, the wire and loop pair(s) P may be disconnected from the stent frame **201** and withdrawn proximally through the delivery catheter lumen **104**.

The description of the invention and its applications as set forth herein is illustrative and is not intended to limit the scope of the invention. Features of various embodiments may be combined with other embodiments within the contemplation of this invention. Variations and modifications of the embodiments disclosed herein are possible, and practical alternatives to and equivalents of the various elements of the

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other variations and modifications of the embodiments disclosed herein may be made without departing from the scope and spirit of the invention.

We claim:

1. A method for delivering, positioning and/or repositioning a collapsible and expandable stent having a stent frame within a patient's heart chamber, comprising:

providing at least three non-looped wire and looped wire pairs, wherein a distal end of each of the at least three wire pairs is operatively and releasably connected with a corresponding junction between two struts of the stent such that, for each of the at least three non-looped wire and looped wire pairs, the non-looped wire wraps around the junction and extends through a loop formed on the distal end of the looped wire, and wherein proximal ends of each wire in the at least three wire pairs extend outside the patient;

providing a delivery catheter comprising a lumen with a proximal end and a distal end;

positioning the distal end of the delivery catheter within the heart chamber;

advancing the stent in an expanded configuration into the proximal end of the lumen of the delivery catheter and collapsing the stent to a collapsed configuration;

translating the collapsed stent in the collapsed configuration distally through the lumen of the delivery catheter;

delivering the collapsed stent out of the distal end of the lumen of the delivery catheter and expanding the stent to an expanded working configuration;

manipulating the proximal ends of each wire in the at least three non-looped wire and looped wire pairs to position the expanded stent within the patient's heart chamber;

releasing the non-looped wire from the looped wire to disconnect each of the at least three non-looped wire and looped wire pairs from the expanded and positioned stent; and

withdrawing each non-looped wire and looped wire proximally through the delivery catheter lumen.

2. The method of claim 1, wherein the patient's heart chamber comprises the left atrium and the delivery catheter is positioned to provide a transseptal delivery of the expanded stent into the left atrium.

3. The method of claim 2, wherein the stent comprises a lower end and an upper end, wherein the lower end is positioned adjacent to the patient's native mitral valve.

4. The method of claim 1, wherein the delivery catheter is positioned to provide access to the patient's heart chamber by one of the group of delivery techniques consisting of: transapical; transfemoral; transatrial; and transseptal.

5. The method of claim 4, wherein the junction between the two struts is located at a lower end of the stent.

6. The method of claim 4, wherein the stent comprises a lower outer surface at least partially covered by a fabric skirt, wherein the at least three non-looped wire and looped wire pairs extend through the fabric skirt, and wherein the junction between the two struts is located at the lower end of the stent.

7. The method of claim 1, wherein each wire pair of the at least three wire pairs engaging a junction between two struts at a location that is spaced apart from the other wire pairs.

8. The method of claim 7, further comprising providing a releasable lock operatively engaging each looped wire of the at least three non-looped and looped wire pairs.